October 2014

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Providing Quality
Electrical Products,
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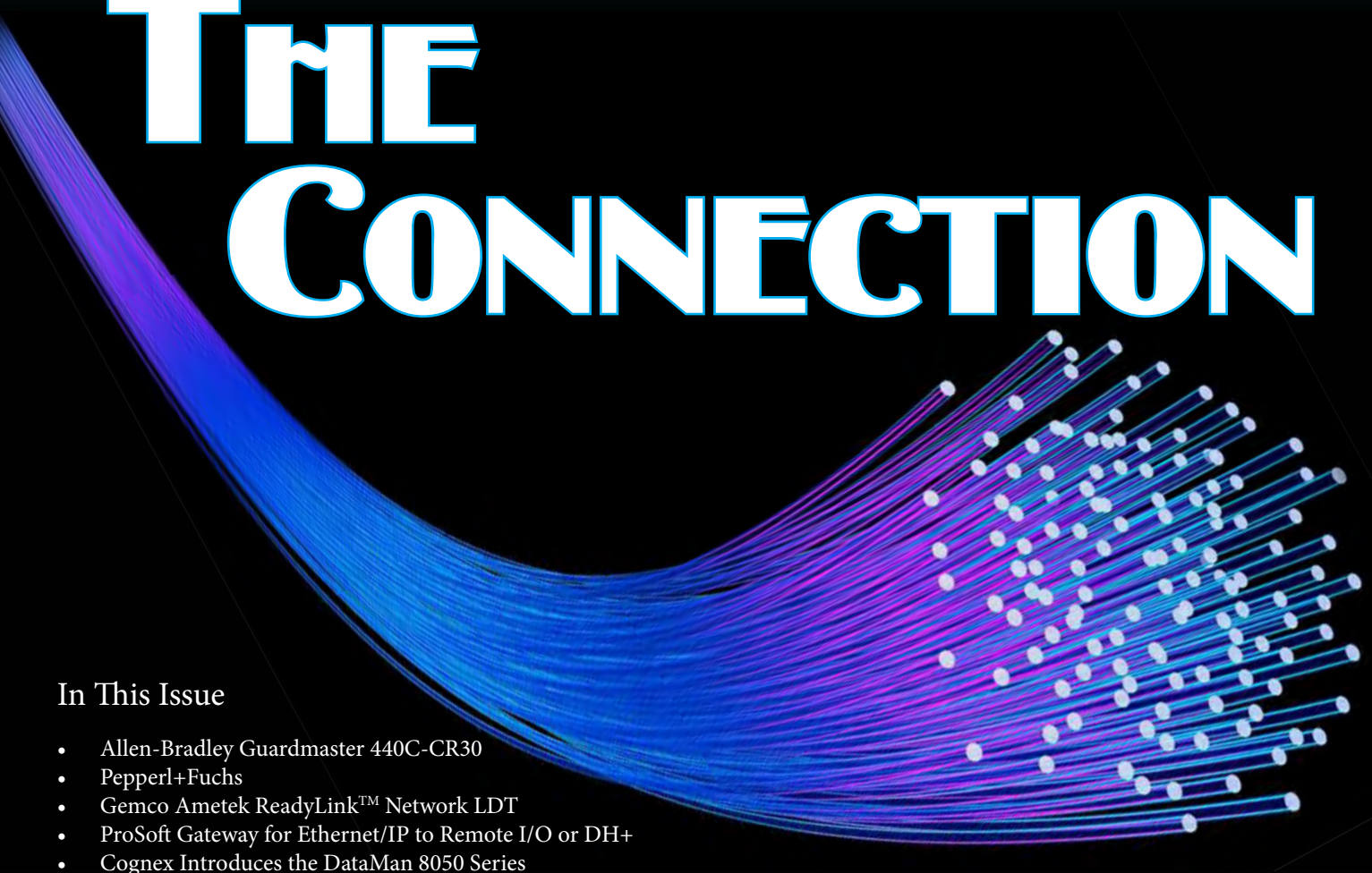
The Connection



In This Issue

- Allen-Bradley Guardmaster 440C-CR30
- Pepperl+Fuchs
- Gemco Ametek ReadyLink™ Network LDT
- ProSoft Gateway for Ethernet/IP to Remote I/O or DH+
- Cognex Introduces the DataMan 8050 Series
- Siemens Busway
- Are You Installing Light Fixtures with Extended Life Expectations?
- Introducing the New 440G-LZ Guard Locking Switch
- E-Drive Linear Actuators
- Adding Real Time Automation to Your Total Control Solution
- Leviton Vacancy Sensors
- Introducing the Allen-Bradley 45LUM Luminescence Sensor
- Siemens Dual Function AFCI/GFCI Circuit Breaker
- Are Poor Shaft Alignments Costing You?
- New Products from Greenlee
- T8 LED Lamp Update
- ROK Catalog app for the iPad
- Allen-Bradley Training Schedule

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Allen-Bradley Guardmaster 440C-CR30 Software Programmable Safety Relay

By: Zack Bone
Automation Specialist
Birmingham, AL

Looking for a logic solution for small to mid-range safety applications? Look no further than the new 440C-CR30 programmable safety relay from Allen-Bradley. This new programmable relay fits in the space between standard/special purpose safety relays and a GuardLogix solution. Capable of applications using 4-10 safety circuits or up to 5 zones, this programmable relay is perfect for simple to somewhat complex applications. Using Connected Components Workbench, the same programming software used for the Micro 800 family of controllers, PowerFlex Drives, and PanelView Component HMI's, the user can utilize the same programming environment for standard and safety control circuits. The software uses a drag and drop format for all of the safety inputs, outputs, monitoring circuits, and safety logic. Typical safety functions such as light curtains, safety mats, guard locking, two hand control (anti-tie down), enabling switches, and muting can be programmed as simply as dragging and dropping the icons into the program.

The programmable relay comes with 22 points of safety I/O built in and allows expandability in a couple different ways. If you need additional standard I/O for reset circuits, monitoring circuits, or standard control, this can be done with utilizing two slots on the front for Micro 800 I/O modules. The Micro 800 modules provide 4 inputs and 4 outputs for each slot. If additional safety I/O is required, there are points on the base unit that can be configured to use the "Single Wire Safety" function of the Allen-Bradley GSR safety relays.

Rockwell Automation

If a visual interface is required, the on-board Modbus port allows the controller to be connected directly to a PanelView Component HMI. This allows users to easily monitor, troubleshoot, and modify their applications for increased uptime. If visualization is not required but status and troubleshooting help is, 5 status and 16 user programmable LED's on the 440C's faceplate allow the user to quickly determine faults or status of the controller all locally.

Features
- Ple, SIL3 per EN ISO 13849-1, IEC 62061
- 22 embedded Safety I/O
- Embedded USB programming port
- Embedded Modbus RTU serial port
- Two plug-in ports supporting Micro800™ (2080) plug-ins

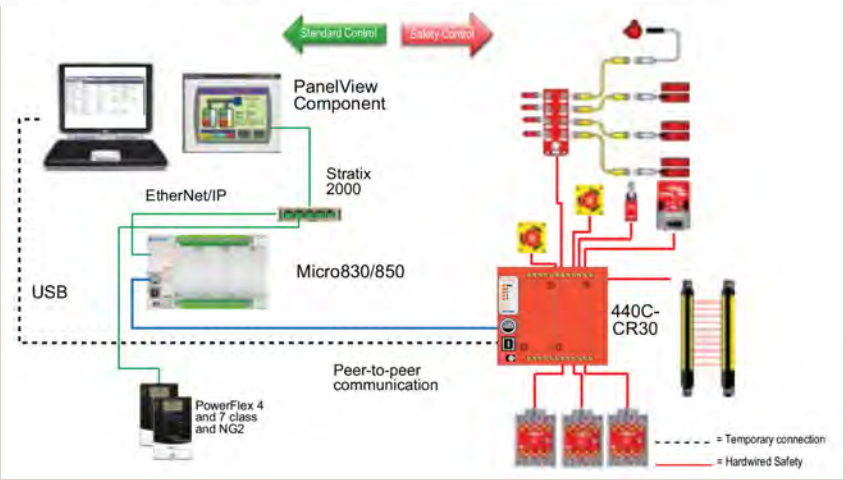
Specifications	
Communications ports, embedded	• USB 2.0 (non-isolated) • RS232 non-isolated serial
Base Programming Port	USB 2.0 (non-isolated) Any standard USB printer cable will work
Base digital I/O points (see Types and Number of Inputs/Outputs)	22
Base number of plug-in modules	2
Maximum digital I/O[1]	38
Types of plug-ins supported	2080-IQ4OB4 Digital I/O Combination module
Power supply	Embedded 24V DC power supply, optional external 120/240V AC power supply available
Software	Connected Components Workbench

[1] The number of maximum digital I/O assumes 8-point digital I/O plug-ins (for example, 2080-IQ4OB4) are used on all available plug-in slots. Standard digital inputs can only be used for non-safety rated diagnostics and control such as resets, muting sensors or external device monitoring feedback circuits.

Accessory/Catalog Number	Description
Digital I/O Combination Module, 2080-IQ4OB4	4-channel inputs/outputs combination modules

I/O Type	Number
Input Only (24V DC Sink)	10
Input Multi-Purpose Terminal: • Input (24V DC Sink) • Single Wire Safety Input	2
Multi-Purpose Terminal: • Input (24V DC Sink) • Test Output • Output (24V DC Source)	6
Output Only (24V DC Source)	2
Output Multi-Purpose Terminal: • Output (24V DC Source) • Single-Wire Safety Output	2

Benefits
- Quick and easy configuration via Connected Components Workbench™ – a single software environment for standard and safety control
- Pre-defined drag-and-drop safety function blocks simplify programming
- Advanced diagnostics enable increased productivity and enhanced safety
- Embedded Modbus communicates with Allen-Bradley Connected Components for efficient monitoring and troubleshooting
- Compact design optimizes panel space
- Flexible, scalable solution thanks to standard Micro800 I/O plug-ins



Contact your Kendall Electric Account Manager for additional information.

PEPPERL+FUCHS

Rockwell Automation Encompass™ Product Partner

By: Mike Wolfgram
Automation Specialist
Saginaw, MI

Kendall Electric is now an Authorized Distributor for the Process Automation Division of Pepperl+Fuchs (P+F), a Rockwell Automation encompass partner. P+F is the global leader in the design and manufacturing of protection equipment for electronics in hazardous areas. Their products are a perfect complement to Rockwell Automation process solutions. P+F's innovative and market-leading products include intrinsic safety, fieldbus, hazardous location barcode scanners, WirelessHART interfacing, signal conditioning, and Bebco EPS® purge and pressurization.

P+F Bebco EPS® Division Products are designed to supply one or more protected enclosures with clean instrument air or an inert gas. Purge and pressurization is one of the most flexible EX protection methods, because it allows the use of non-EX rated electrical equipment to be utilized within the hazardous area. This process removes flammable gases or prevents the accumulation of ignitable dusts within the protected enclosure. This method of protection is not limited by the quantity, configuration, power requirements, or location of the protected equipment. These purge systems are commonly used for all applications involving basic electronics, electrical equipment, motors and switchgear. In addition, these systems can meet the demands of rack mounted instrumentation, video displays, PLCs, ControlLogix Systems, computers, printers, recorders, measurement gas analyzers and calibration equipment. Unlike explosionproof enclosures, failure of a P+F Bebco Enclosure Protection System does not create an immediate danger. Another benefit of purging and pressurization is the use of the standard Type 4/12 enclosure as the protected enclosure. This saves money, weight, and space over explosion-proof methods.

Whether you have a Class/ Division or Zone rated area, P+F has a purge or pressurization system designed for you. Here in the US, the National Electric Code (NEC) defines Hazardous Locations using the Class / Division method. Here are 3 examples of P+F Bebco purge types for Class / Division rated locations.

Type X P+F Bebco Purge System: The Type X purge system reduces the classification within the protected enclosures from Division 1 to non-hazardous. General-purpose equipment can be operated within the protected enclosure in a Class I or II Division 1 location.

Type Y P+F Bebco Purge System: The Type Y purging system reduces the classification within the protected enclosure from Division 1 to Division 2. All equipment used within the enclosure must be Division 2 rated.

Type Z P+F Bebco Purge System: The Type Z purge system reduces the classification within the protected enclosure from Division 2 to non-hazardous. General-purpose equipment can be operated within the protected enclosure in a Class I or II Division 2 location.

Additional information can be found at: www.pepperl-fuchs.us/purge

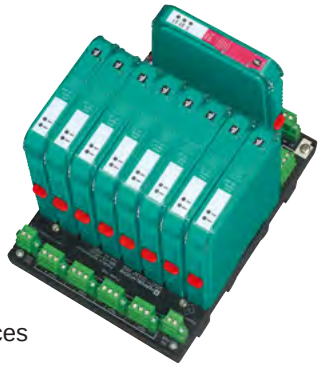
Check out these additional Pepperl+Fuchs products:

Barcode Scanners for Hazardous Locations

Foundation Fieldbus Intrinsic Safety

Foundation Fieldbus Junction Boxes

Foundation Fieldbus Power Conditioning



HART Interface Devices

Wireless HART Interface

PS3500 Power Supply

By: Pat Morrissey
Automation Specialist
Holland, MI

The need for automation is greater today than ever before. Linear Displacement Transducers play an important role in factory automation, providing accurate, reliable, absolute position feedback to help automate today's sophisticated machinery. Sensors must deliver value, be easy to set up and interface easily into the host controller.

Introducing ReadyLink™ Network LDT

•The ReadyLink™ EtherNet/IP™ LDT with RapidRecall™ is Ametek's newest linear displacement transducer (LDT) being developed with an EtherNet/IP™ network interface.

• EtherNet/IP™ is an Industrial Ethernet implementation of the Common Industrial Protocol (CIP), managed by the Open DeviceNet Vendors Association (ODVA). EtherNet/IP™ was introduced in 2001 and today is the most developed, proven and complete industrial Ethernet network solution available for manufacturing automation.

The Network LDT provides maximum flexibility for installation and ease of use in demanding, high-performance, networked industrial applications. EtherNet/IP™ systems require only a single point network connection for both configuration and control, thus simplifying installation and wiring. Their linear displacement transducer line utilizes advanced, proven Magnetostrictive technology to provide highly precise and absolute non-contact position feedback down to 1 micron resolution. Ametek packages these sensors to survive in the most demanding and hostile environments. The position of the magnet on the sensing element is precisely determined by a time of flight method. The LDT converts this position value where it is transmitted to the customer controller via the Ethernet Network.

The Network LDT is available in two different package styles; the 953N is our Rod Style package that is suitable for installation into hydraulic cylinders and their 957N Brik Low Profile Style package that incorporates the same electronics but is housed in an aluminum style extrusion.

Features

- RapidRecall™ Configuration Module
- Supports: Star, Line & DLR (Device Level Ring) topology
- Supports Encoder 22h Profile
- 5 status LEDs to monitor functionality of LDT and Network status
- IP address selection flexibility – Providing both local switch & software setting capability
- Setup via web browser – No special configuration software required
- Ability to backup and restore unit configuration in RapidRecall™ Configuration Module
- Ability to reset unit to factory defaults
- Diagnostics and alarm functionality (web page)
- Status Bits: Position & Velocity out of programmable limits range
- Wide input power operating range (7 – 30VDC) – Standard M12 connector
- IP67 Rated
- Non-contact technology (Magnetostrictive)
- Longevity: Nothing to wear out
- Simplified system wiring

Overview

The Network LDT supports Star, Line and Device Level Ring (DLR) topology and supports static IP address setting or DHCP (Dynamic Host Control Protocol). DLR provides device level network rerouting in the event of a break in the ring. The static IP address can be assigned via the network, or the last octet can be set manually via three rotary DIP switches. There are five diagnostic LEDs located on the cover next to the connectors that indicate the status of the LDT and Network communication.

Data is communicated over the Ethernet Network using two types of messaging:

- I/O Messaging (Position, Velocity & Status Bits)
- Explicit Messages (Parameters & Configuration)

I/O Messaging is used for time critical data such as position, velocity and status. Explicit messages are used for configuration data such as position scaling, resolution and count direction, among other parameters. The EtherNet/IP™ Network LDT module conforms to the Encoder device profile device type 22h. The AMETEK ReadyLink™ EtherNet/IP™ LDT with RapidRecall™ is a smart device; it has a RapidRecall™ Configuration Module to help aid in configuration of the LDT. This module is located on the head assembly of the LDT, next to the connectors. The RapidRecall™ module can be used to help configure the static IP address of the LDT and store all user defined configurations. In the module there are three rotary DIP switches that allow the user to configure how the IP address is assigned as well as other functions. Once the LDT has been configured, these settings can be uploaded to the module. One of the key benefits to uploading the configuration data to the RapidRecall™ module is that if anything was to ever go wrong with the LDT, the RapidRecall™ module with the entire user programmed settings can be removed from the original unit and installed on the replacement unit. With a simple setting of the DIP switches the user configuration settings can be downloaded from the RapidRecall™ module to the new LDT. The Network LDT has three connectors. The incoming power is supplied via a 4-pin M12-A style connector. The network communication will be through either of the two 4-pin M12-D coded connectors.

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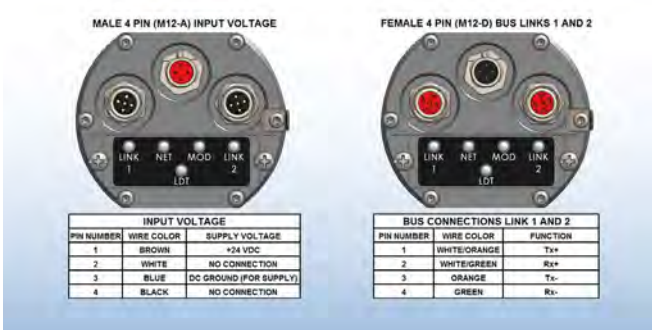


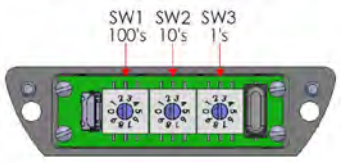
INPUT VOLTAGE

PIN NUMBER	WIRE COLOR	SUPPLY VOLTAGE
1	BROWN	+24 VDC
2	WHITE	NO CONNECTION
3	BLUE	DC GROUND (FOR SUPPLY)
4	BLACK	NO CONNECTION

BUS CONNECTIONS LINK 1 AND 2

PIN NUMBER	WIRE COLOR	FUNCTION
1	WHITE/ORANGE	Tx+
2	WHITE/GREEN	Rx+
3	ORANGE	Tx-
4	GREEN	Rx-

STATIC IP ADDRESS SWITCHES



Wide Ranging Power Supply

•The Network LDT is designed with a wide ranging input power supply. It can operate anywhere between 7 to 30 volts DC at 2.3 watts of power.
– With this wide ranging supply the same unit can be used in industrial (24V) or mobile (12V) applications.
– Another key advantage with the wide ranging supply is that on long cable runs, you typically do not need to worry about voltage drop to the incoming power; therefore eliminating the need for a separate power supply to power the LDT.

Ametek sensors are absolute and never require homing or calibrating in the event of a power loss and are built in the USA to meet global application needs. Products include GEMCO® linear and rotary sensors.

Contact your Kendall Electric Account Manager for additional information.

ProSoft® TECHNOLOGY

By: Don McSween
Sales Manager
Grand Rapids, MI

Gateway for Ethernet/IP to Remote I/O or DH+

Most of us have plants that have legacy networks such as Remote I/O or DH+ that would be best served if they are upgraded to an Ethernet based Logix (either Control or Compact) platform. Last year, Prosoft Technology released their Ethernet/IP to Allen Bradley DH+ or Remote I/O gateway. This gateway module (AN-X2-AB-DHRIO) was designed to help manufacturers initiate a phased migration to upgrade the legacy PLC5 and SLC based control systems that network through blue hose and to replace RIO PLCs, HMIs, and/or VFDs. The AN-X2-AB-DHRIO can be added to the existing network and monitor the changing states of I/O without interrupting the process thus the implementation of the Prosoft gateway card can be accomplished without interrupting the current program and verification can be completed before switching out the old system. The gateway has a built-in MicroSD card which stores configuration files and firmware. This Micro SD card can be transferred to another gateway to resume operation in the event of a disaster.

A more in depth look at the AN-X2-AB-DHRIO shows that it has five operating modes that can accomplish the following:

SCAN: Keep existing racks of Remote I/O while replacing the existing PLC with either ControlLogix or CompactLogix PAC. This migration can be accomplished without interrupting existing system, supports up to 32 racks of RIO, supports all RIO baud rates, and has an auto-configuration utility that knows the baud rate and maps discrete I/O thus reducing configuration errors.

DHP: Use the gateway card to be a bridge between Ethernet/IP and a Data Highway Plus network allowing legacy network address for programming terminals and/or processors. Like for RIO, this mode supports all available baud rates (57.6, 115.2, & 230.4K).

ADAPT: This mode allows ControlLogix to monitor Bock Transfer and I/O data on an active RIO network without occupying a drop. Supports up to 15 Ethernet/IP I/O connections to a Logix processor, supports any combination of Remote I/O rack addressing, and auto configures rack addressing and baud rates.

DRV: The AN-X2-AB-DHRIO allows old RIO drives to be switched out to new Ethernet/IP enabled Powerflex drives without having to change any PLC code. Supports up to 4 Ethernet/IP drives, configurable for ¼, ½, and full rack addressing.

HMI: This mode allows up to 8 old Remote I/O Panelviews to be upgraded to the Panelview Plus 6 family of HMIs over Ethernet I/P without any changes to PLC code.

Recently a Grand Rapids based manufacturer used the HMI mode of the AN-X2-AB-DHRIO to be able to replace an old RIO based standard Panelview that was old and failing. This PV was in an explosive proof area that made pulling new cables (such as a Cat 5 Ethernet cable) very difficult so the Prosoft solution was extremely attractive. The company was able to install the new Panelview + 6 and AN-X2-AB-DHRIO in the XP production area and use the existing blue hose to connect back to the old PLC5.

For more information on the Prosoft AN-X2-AB-DHRIO, please contact your Kendall Electric Account Manager or PLC Specialist.

COGNEX

By: Ryan Zissler
Account Manager
Saginaw, MI

The New DataMan 8050 Handheld Barcode Readers are Now Available!
Cognex has recently announced the release of its fastest and most economical industrial handheld readers yet, the DataMan® 8050 Series. These readers are designed with a rugged housing to handle harsh conditions and are equipped with Cognex's world-class barcode reading algorithms. The DataMan 8050 Series can read even challenging barcodes quickly, accurately, and easily.

Modular, industrial design adapts to your needs.
The modular design of the DataMan® 8050 Series adapts with your changing communication needs. Available with both corded and wireless communication modules, the DataMan® 8050 product supports industry-standard communications including USB, USB Keyboard, RS-232 and Bluetooth wireless communication to a base station. Built for tough work environments, the DataMan® 8050 has durable and industrial product features as well as a range of industrial cables and accessories to complement the product.

Challenging codes?...We can read them!
The DataMan® 8050 is ideal for applications in many manufacturing environments. The DataMan® 8050 Series barcode readers utilize Cognex's patented 1DMax algorithms to provide high-speed reading performance even with damaged, low contrast, direct inkjet , washed out, curved surface, blurred, uneven, and plastic printed barcodes. Our 2-D algorithms allow the 8050 to rapidly decode a variety of 2-D code degradations such as noisy background, glass, round surfaces, dot peen, blurred, low contrast, uneven lighting, finder degradation, laser etched, or even mixed codes.

For more information about the DataMan® 8050 Series industrial handheld barcode readers, please contact Kendall Electric.

SIEMENS Busway

When choosing a power distribution system in a plant, you face the challenge of balancing performance with value to efficiently distribute power to your facility. Siemens offers a complete and modern line of busway products with an extensive range of options that lets you match your site-specific requirements with an optimized power delivery solution. These innovative solutions encompass the world's most comprehensive and technologically advanced busway products for the automotive, industrial, commercial/institutional and high-rise multi-occupancy markets.

Siemens flagship busway line is the Sentron busway. Sentron busway delivers impressive features and benefits that make it ideal for many types of industrial and construction implementations. And thanks to its innovative design, it is one of the least labor intensive systems on the market. In fact, using Sentron Busway instead of cable and conduit can save a customer 20-30% on total installed cost. The use of this busway system can cut your installation time in half. Sentron Busway install with minimal hardware, and the lightweight aluminum housing acts as an integral ground. Joint stacks connect with splice plates featuring a single bolt design, and bus plugs and cable tap boxes offer the industry's largest wire bending space. An optional 200% neutral within the bus bar housing accommodates harmonics common in today's power systems. The Sentron name is recognized worldwide as synonymous with quality and consistence performance and is one of the premier systems on the market.

Continued on next page...

Are you installing light fixtures with extended life expectations?

INTERMATIC®

By: Tim Fox
Account Manager
Kalamazoo, MI

In new lighting applications, the endurance of traditional photo controls has fallen short of expectations due to detrimental effects caused by the electrical characteristics of the electronic drivers associated with these new fixtures. Electronic ballasts and drivers offer improved efficiency and control of LED, inductive and fluorescent lighting loads, but can also subject the associated lighting controls to high inrush currents when switched on, possibly causing damage or reducing the life of the photo control.

A number of issues have plagued new lighting technologies and their control systems. Updated photo control designs offer solutions to the problems associated with high inrush currents. Intermatic has reviewed standards focused on high inrush currents and performed extensive qualification testing on its photo control products. As a result of this analysis, Intermatic is able to offer products with electronic ballast inrush current ratings and extended life designs that match current lighting technology on the market today.

If you are installing LED's or new induction fixtures with the expectation of long life spans, expect no less from your photo controls!

Here are just some of the numerous reasons to consider Intermatic photo controls on your next install:

Designed for Long Life
- Improved ON/OFF switching with high quality relays
- Zero-crossing electronic circuitry for extended life
- Employs electronic components exclusively selected to meet extended life targets
- Conformal coated PCB assemblies for long term

Tested for Long Life
- Products tested to full ON/OFF lifecycles under tungsten, magnetic and electronic ballast loads
- Electronic ballast testing per NEMA 410 to ensure compatibility with today's array of electronic ballasts and drivers

Warrantied for Long Life
- 6, 8, and 12 year warranties
- Intermatic brand assurance for peace of mind and trouble-free implementation

More Features
- High load ratings for multi-fixture installations for each photo control
- Enhanced surge protection with 510 J MOV
- Meets or exceeds ANSI C136.10 and UL/CSA requirements

If you would like more information on Intermatic photo controls, please visit www.intermatic.com and call your Kendall Electric Account Manager for pricing and availability today!

By: Will Gosnell
Account Manager
Birmingham, MI

Siemens also carries a few many other product lines to meet the needs of any customer. XJ-L Busway is well known for its outstanding performance, providing convenient, cost-effective power distribution for high-tech environments, data centers, laboratories, and other applications requiring consistent, quality power distribution. XL-U Busway is a reliable solution for automotive and industrial applications where there is particular concern with voltage sensitivity. And BD busway is a rugged air insulated busway that has been on the market for over 70 years and has an excellent track record. With this range of products, Kendall can provide a solution to the customer no matter what their needs.

For more information about how Siemens busway can meet your needs, please contact your Kendall Electric Account Manager.

Rockwell Automation

Introducing the New 440G-LZ Guard Locking Switch

By: Mike Barringer - Account Manager - Saginaw, MI

Rockwell Automation has released a new member to their guard locking switch family. It is the GuardMaster 440G-LZ. Before we get into the features and benefits of this switch, let's discuss the applications for guard locking switches.

Why use a guard locking switch?

Guard locking switches are used to protect hazardous areas where a danger is not immediately removed after a stop request. On many machines, removal of power from the motor or actuator will not necessarily cause a reliable and immediate stopping of the dangerous motion. Typical applications are: high inertia rotating machines, fast rotating machines, and machines where high pressure needs to be released from pneumatic valves.

Gates protected with guard locking switches are usually opened on exception basis. For example: to clear a jam or to regularly maintain the machine. This type of switch should not be used for frequent access during normal operation of the machine.

Guard locking switches use a solenoid to activate a lock which blocks or releases the tongue from the switch.

Rockwell Automation offers two different types of guard locking switches:

Power to Lock

When power is applied to the solenoid, the tongue is locked in the switch. When power is removed, the lock is released allowing the tongue to be extracted from the switch.

Power to Release

When power is applied to the solenoid the lock is released allowing the tongue to be extracted from the switch. When power is removed, the tongue is locked in the switch.

440G-LZ

The new 440G-LZ is a guard-locking interlock switch. Its locking bolt extends into the actuator only when the correct actuator is detected. It has 2 OSSD SS outputs that are enabled with the locking bolt is extended into the actuator.

Features

- Certified to PLe to EN/ISO 13849-1 (both for door position and lock monitoring to EN/ISO 14119)
- Solid-state design and monitored outputs
- Scalable protection with unique or standard coded RFID actuators
- High holding force of 1,300 N (Fzh)
- Energy efficient green device that only uses 2.5 W
- IP69k and hygienic design
- Power-to-release and power-to-lock versions
- Compact design optimized for ease of mounting
- Diagnostic information provided by two bright 270° LEDs
- Solid-state OSSD outputs series connectable to EN/ISO 14119:2013

Contact your Kendall Electric Account Manager for additional information.

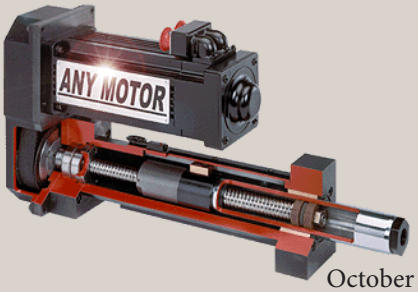
E-DRIVE® Linear Actuators

By: Larry Flanery
Account Manager
Saginaw, MI

Most people think of Kendall Electric as their supplier of all things electrical for their industrial, commercial & residential needs. Many of these same people don't realize that Kendall also offers a wide variety of mechanical solutions. Today I'd like to highlight one of manufactures that was born & made in the USA.

E•DRIVE actuators are designed, manufactured, tested, and serviced in West Hartford, CT. Founded in 1980, E•DRIVE Design, Inc. initially developed a wide variety of heavy duty ball screw linear actuators, targeting the machine tool retrofit market.

Over the years E•DRIVE Design's business has grown based on their philosophy of design flexibility and rapid response to their customers' needs. As the machine tool market declined, E•DRIVE's unique steel construction and long life have attracted new markets, namely factory automation, and more specifically the replacement for hydraulic and pneumatic linear actuators. E•DRIVE's business has continued to grow as the demands for improved control over linear motion have increased.



From the very beginning, E•DRIVE customers have enjoyed an unsurpassed commitment to superior quality, integrity, and customer service. E•DRIVE now offers a standard five year warranty, showing their trust and belief in their superior designs and construction. If you need help with your design or product application support, Kendall Electric's or E•DRIVE's experienced staff will provide as much technical support as needed.

Please contact your Kendall Electric Account Manager for additional information.

Real Time Automation

RTA
rtaautomation.com

By: Brad Ewart
Account Manager
Lansing, MI

It's worth exploring…
Adding RTA to your total control solution.

So you have either built or taken delivery of a new control panel. Now it's time to integrate it to your equipment on the floor. You have looked for and discovered that not all devices are able to move the data from your equipment to your programmable controller. In this case, you probably have a Micro Logix, Compact Logix, or Control Logix processor in your control scheme. What do you do?

This is the point where it is worth considering a solution from Real Time Automation (RTA). RTA provides a processor involving the fastest and easiest system to move raw TCP data to Rockwell Automation Logix devices. These Gateway Devices, like the 490NBS and the 490NBX, optimize moving data from devices like bar code readers, printers, weigh scale devices, etc. to and from RM Logix Controllers.

A single module has the ability to network multiple TCP devices and move data simultaneously, all the while methodically independent. This is accomplished with no host messages and little to no latency. There is no software to download or code to write, which makes RTA one of the quickest and most cost effective solutions to integrate networks. Using your Internet browser to configure and transfer your data, an included discovery tool allows you to configure through your web browser interface. It's that simple. Nothing more.

RTA manufactures its products in the United States with ample stock at Kendall Electric to take care of your data solutions.

It's worth exploring … RTA as part of your total control solution.

Allen-Bradley PLC's	Modbus RTU Devices
EtherNet/IP Devices	Modbus TCP/IP Devices
DeviceNet Devices	ASCII Devices
BACnet/IP Devices	Ethernet TCP/IP Devices
BACnet/MS/TP Devices	Profinet IO Devices
Profibus DP Devices	USB Devices

Contact your local Kendall Electric Account Manager for additional information on what Real Time Automation can do for you.

LEVITON

Vacancy Sensors

By: Joanne Cebelak
Account Manager
Lansing, MI

We all know that occupancy sensors detect the presence or absence of people in a space to automatically turn on or off area lighting. It is also pretty obvious when the wrong type of sensor is used because either the lights don't come on or turn off when they are needed.

For energy savings reasons, new levels of complexity and regulations continue to roll out. The options can get overwhelming, but one of the newer terms to consider is a vacancy sensor.

A vacancy sensor requires an individual to manually turn on the lights. It could be the same physical device as an occupancy sensor, but it does not automatically turn on the lights like an occupancy sensor does. Think of the times you grabbed that last paper you forgot off your desk or when you used your hospital restroom in the middle of the night. You did not need a fully lit room and would never turn on the lights on your own. Utilizing a vacancy sensor allows that option. Both technologies turn off when motion is no longer detected for a specified period of time.

The Leviton Decora Wall Switch Sensor with LED NightLight #OSSNL is a neat product that can be programmed as either an occupancy or vacancy sensor allowing for automatic-on or manual-on. Product highlights include:

- Installation – replaces single-pole wall switch in a standard wall box
- Guide light – when you need a small amount of illumination
- Nightlight mode – dims automatically to 5% of full brightness after 2 minutes of no occupancy
- Energy savings - consumes less than ½ watt
- Adjustable time delay - settings of 30 seconds to 2 hours
- Use in smaller rooms - restrooms, offices, storage areas, laundry rooms, lounges

Take a look at this sensor and give it a try. It is currently in stock at Kendall Electric.

	Lights Turn On	Lights Turn Off
Occupancy Sensors	Automatically turn on when motion is detected.	Automatically turn off when room is vacant/motion is no longer detected.
Vacancy Sensors	Need to manually turn on.	Automatically turn off when room is vacant/ motion is no longer detected.

Rockwell Automation

Introducing the Allen-Bradley 45LUM Luminescence Sensor

By: Don Marr
Account Manager
Grand Rapids, MI

Rockwell Automation is pleased to introduce the Allen-Bradley 45LUM Luminescence Sensor, the latest addition to our photoelectric sensor portfolio. This advanced sensor detects the presence of luminescent/fluorescent particles that are inherent in glues, inks, clear labels, oils, greases, paints, detergents and chalks. By emitting ultraviolet light, this sensor detects visible light reflected from fluorescent/luminescent objects regardless of the background or surface. Luminophores or fluorescent materials can easily be added to the materials used in your process to ensure best sensor performance without affecting the finished product.

Equipped with a simple push button teach setup with the option to remote teach, the 45LUM Luminescence sensor has up to a 50 mm (2 in.) operating distance and one discrete output which is light operate (L.O.).

This self-contained sensor has a high-definition light spot for simple, accurate sensor alignment positioning and solves tough application challenges for the automotive, packaging, material handling and food and beverage industries. The 45LUM also features a rotatable QD connector and multiple mounting bracket options for installation flexibility.

45LUM Luminescence Sensor Specifications:
45LUM-D7JPT1-D5

- Sensing Distance: 5mm to 50mm (0.2 in to 2 in)
- Response Time : 1 ms
- Output Type : NPN, N.O (Normally Open)
- Operating Environment: IP67
- Voltage: 12 – 28V DC
- Operating Temperature: -10...55°C (-14…131°F)
- Light Source: Visible Ultra Violet Light
- Housing Material: ABS Housing
- Lens Material: Glass
- Adjustment: Static teach, Remote teach
- Output Mode: Light operation
- Connection Types: M12 Connector QD, 5-pin Rotatable

For more information on the 45LUM sensor or other sensor applications please contact your Kendall Electric Account Manager.

General Ordering Information

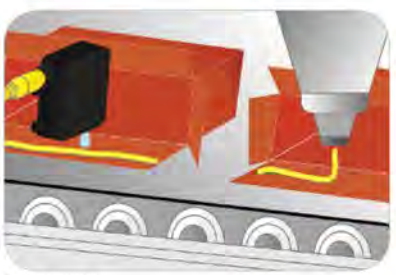
Product Selection

Sensing Mode	Light Source	Sensing Distance	Spot Size	Operating Voltage	Connector	Cat. No.
Diffuse	Visible UV LED	5...50 mm (0.2...2.0 in.)	3 mm (0.1 in.) at a distance of 18 mm (0.7 in.)	12 to 28V DC	5-pin DC Micro	45LUM-D7JPT1-D5

Accessories

Description	Cat. No.
2 m (6.5ft) 5-pin DC Micro QD Cordset, Straight	889D-F5AC-2
2 m (6.5ft) 5-pin DC Micro QD Cordset, Right Angle	889D-R5AC-2
Mounting bracket	45BPD-BKT1
Protective mounting bracket	45BPD-BKT2

Verification of tamper resistant seals



Glue detection sensing

SIEMENS Dual Function AFCI/GFCI Circuit Breaker

By: Joe Filipiak
Account Manager
Lansing,,MI

Breaker breaker! Just when you thought a breaker was just a breaker, Siemens releases a winner.

Now you can buy and install one device containing two state of the art technologies. The Dual Function Circuit Breaker provides Arc Fault and Ground Fault protection in one device! According to the 2014 NEC, Arc Fault protection on kitchen and laundry circuits is now required where Ground Fault protection is currently a requirement. Siemens has paired an AFCI circuit breaker with a GFCI receptacle. The dual function circuit breaker replaces the arc fault breaker and the ground fault receptacle. Talk about cost savings! This one device will save you installation time and money.

Are Poor Shaft Alignments Costing You?

FLUKE®

By: David Lockwood
Account Manager
Saginaw, MI

Fluke, makers of test equipment, has done it again! Yes, Fluke now has a laser shaft alignment tool that you are going to love.

This tool is easy to use, takes all the guess work out of alignments, keeps your equipment up and running longer, and less down time because of bearing wear.

Features & Benefits

Single laser measurement technology means reduced errors from backlash resulting in better data accuracy.

Intuitive guided user interface quickly and easily completes machine alignment.

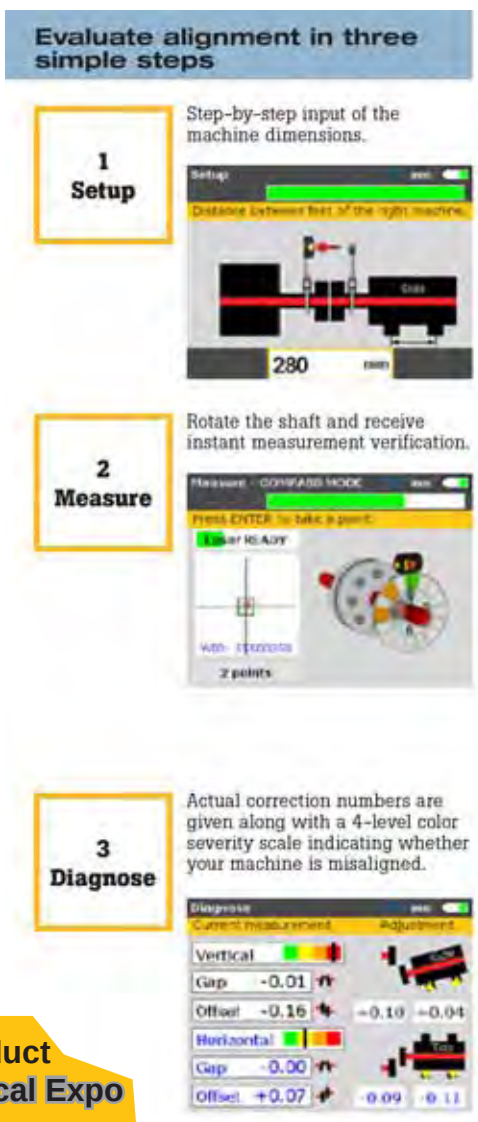
Compass measurement mode enables flexible reliable and repeatable measurements using an activated electronic inclinometer.

Dynamic machine tolerance check provides continuous evaluation of alignment adjustments so you know when your machine is within acceptable range.

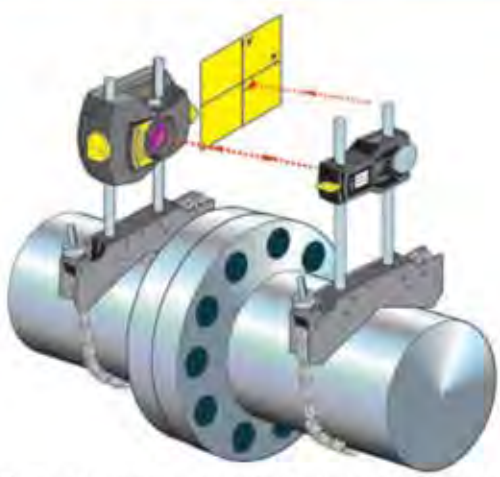
Unique extend mode handles gross misalignment by virtually increasing laser detector size.

Data protection ensures your data is there when you need it with auto-save and resume capability.

Call your Kendall Electric Account Manager today and ask for a demo of the new Fluke 830 Laser shaft alignment tool.



Handling gross misalignment



When machines are well outside of accepted tolerances it can be difficult to get accurate alignment readings. For these gross misalignment problems the Fluke 830 uses a unique "Extend" mode allowing for better measurement accuracy by automatically increasing the effective sensor measurement area. Increasing the sensor measurement area virtually allows the Fluke 830 to address gross misalignment quickly without the need to perform an initial rough alignment.

Additional features and benefits:

1. Clock mode for vertical & flanged machines
2. Machine Flip to flip image of machine on screen for alignment jobs with obstructions
3. Resume mode to save your work and return back at the same step (anytime you need)

Come see a product demo at our Mechanical Expo October 16th at the Pinnacle Center in Hudsonville, MI. Register for this Event at: training.kendallelectric.com

New Products from GREENLEE®

A Textron Company

Greenlee Textron is an industrial and electrical tool company headquartered in Rockford, IL. Greenlee is always coming out with new and exciting tools for electricians. Greenlee's commitment to developing high technology tools that concentrate on labor savings and ease of use are represented by the new tools that have come out recently. Here are some the exciting new additions to the Greenlee Textron line.

EK6ID is a 6 ton crimping tool that weighs just 5-1/2 lbs. With that light of weight you can extend one hand into a panel and crimp cables. The open jawed configuration crimps from #8-600MCM copper and #8-300mcm alum.

By: Derrek Brendahl
Account Manager
Grand Rapids MI

JRF-4 is an universal stripper that strips primary cables ½" to 3" in diameter. The roller ball actuation allows users to simply turn the stripper down the cable with little resistance. Cutting blades for EPR and XLP cables are available.

EK50ML120/EK50ML138 are battery operated micro crimpers for small conductor sized cable. If you have ever spent the day crimping hundreds of crimps, you definitely won't forget what that feels like in the wrist. If you think you might be a candidate for future carpal tunnel injuries, this is the tool for you.

GTS1930 is a saber cable stripper that allows users to strip #6-750mcm. The user just pulls out the laser etched depth stop and puts on the proper bushing for cable and then you rotate the tool around the cable. The bushing's blade never comes in contact with the conductor itself.

With the GMX series tool carts, all you have to do is buy one base and you have the ability to transform them into five different types of carts. The material tree stores 8 compartments of pipe. The materail handler lets you carry bunks of pipe throughout a job site. The wire dispenser allows you to hold 12 small spools at once. The shelving unit is mobile shelving unit with 4 shelves. Lastly, you have the flatbed cart.

T8 LED Lamp Update

By: Mike Iciek
Account Manager
Lansing, MI

I am pleased to announce the release of the Sylvania SubtiTUBE™ LED. This product is an LED replacement for a T8 lamp and will operate on an instant start ballast, no re-wiring required. The "new" T8 LED lamp life is estimated up to 75,000 hours rated life on the instant start ballast.

These lamps are available in 4-foot and now 3-foot and 2-foot lengths. The lamps are covered by the new QUICK 7XL+™ System Warranty. With QUICKTRONIC® electronic PROStart®, DIM or DALI ballasts, the warranty covers ballasts for seven years, full wattage lamps for six years, and SUPERSAVER® XL lamps for seven years.

Features:
— Consistent luminance within 4%
— 4ft - 25W SS (2400 lumens), 28W SS (2600 lumens) and 32W (2950 lumens)
— 3ft - 21W SS (1850 lumens)
— 2ft - 15W SS (1150 lumens)
— 85 CRI - 3000K, 3500K, 4100K and 5000K
— Dimmable on approved ballasts

Target applications for the "new" T8 LED lamp are standard Fluorescent T12 and T8 light fixtures. This lamp does not require any external driver or circuit boards to operate. The lamps are shatter-proof and need no warm-up.

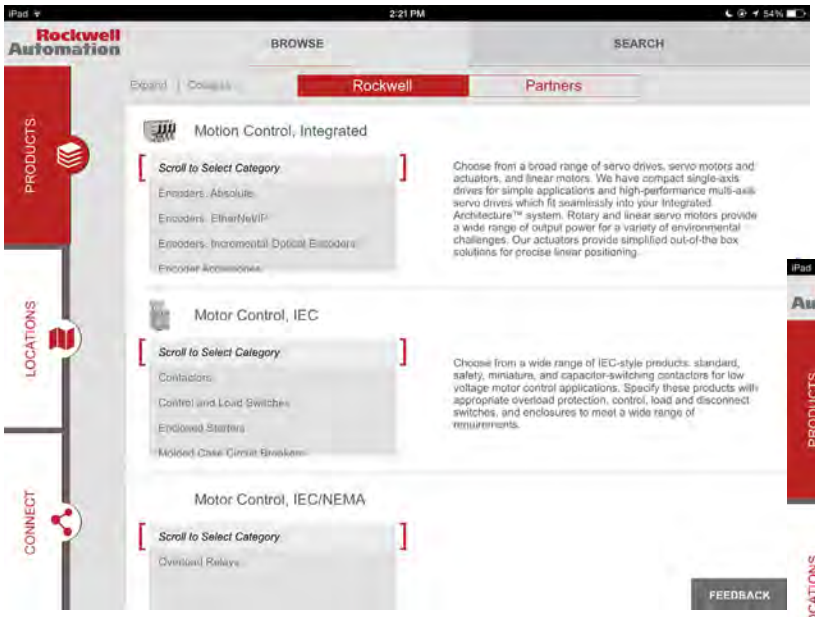
Please contact your Kendall Electric Account Manager with any questions or opportunities.

ROK Catalog

Rockwell Automation

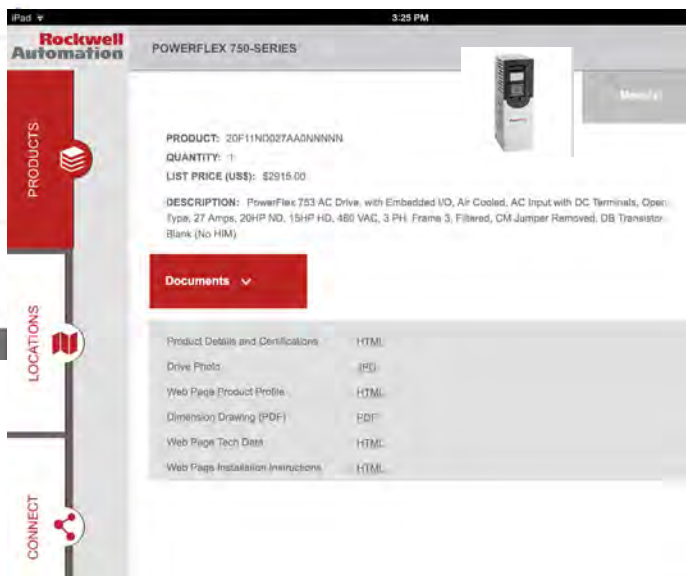
The New Rockwell Automation Catalog App for the iPad

This free download from the App Store puts the Rockwell Automation comprehensive catalog at your fingertips. Browse, search, configure, and share products right from the iPad app.

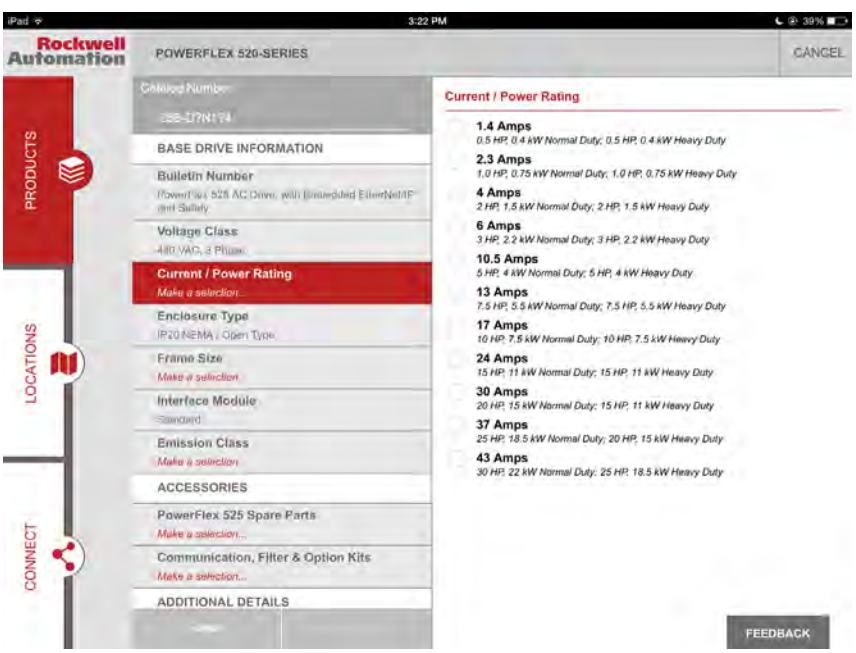


By: Lee Baughn
Automation Specialist
Birmingham, AL

If you are familiar with Proposal Works product selection or the online Product Selection & Configuration Directory, you will be right at home with a similar look and feel.



Need additional product information? No problem, additional documentation is available from the configured product screen. Drawings, wiring information, specifications, manuals, etc are examples of the documentation available via the ROK Catalog App.



The ROK Catalog doesn't stop with Rockwell Automation products; twenty-five+ Encompass Partner's products are included also.

Download the ROK Catalog App today and start taking advantage of this valuable mobile App.

Visit this link to the RA page for product selection:
http://www.rockwellautomation.com/rockwellautomation/support/selection.page

Visit this link for the App Store:
https://itunes.apple.com/us/app/rockwell-automation-product/id742749884?mt=8

Download on the App Store

Allen Bradley® Training Schedule

Course ID	Course Name	Start - End Date		Tuition	Location
CCP153	ControlLogix Maintenance & Troubleshooting	10/14/14	10/17/14	$ 1,990	Kendall Electric Grand Rapids
CCV204	FactoryTalk View ME-PanelView Plus Prog	11/04/14	11/07/14	$ 2,070	Kendall Electric Grand Rapids
CCN200	Kinetix 6000 Maintenance & Troubleshooting	01/13/15	01/14/15	$ 1,240	Kendall Electric Grand Rapids
CCP146	ControlLogix System F undamentals	12/02/14	12/03/14	$ 1,240	Kendall Electric Holland
CCP151	Studio 5000 Basic Ladder Programming	12/04/14	12/05/14	$ 1,240	Kendall Electric Holland
CCP146	ControlLogix System Fundamentals	10/14/14	10/15/14	$ 1,240	Kendall Electric Saginaw
CCP151	Studio 5000 Basic Ladder Programming	10/16/14	10/17/14	$ 1,240	Kendall Electric Saginaw
CCN130	Motion Control Fundamentals	10/21/14	10/22/14	$ 1,240	Kendall Electric Fort Wayne
CCN200	Kinetix 6000 Maintenance & Troubleshooting	10/23/14	10/24/14	$ 1,240	Kendall Electric Fort Wayne
CCP143	Studio 5000 Project Development	11/04/14	11/07/14	$ 2,070	Kendall Electric Fort Wayne
CCN145	Kinetix® 6000 (SERCOS) Programming	11/18/14	11/21/14	$ 2,070	Kendall Electric Fort Wayne
CCV204	FactoryTalk View ME-PanelView Plus Prog	12/02/14	12/05/14	$ 2,070	Kendall Electric Fort Wayne
VC-CCN300-02	Virtual Classroom. Integrated Motion on EtherNet/IP: Commis	11/18/14	11/18/14	$199	Online - 10:30am to 12:00pm
VC-FTVIEW-01	Virtual Classroom. FactoryTalk ViewPoint Implementation	11/14/14	11/14/14	$199	Online - 12:00pm to 1:30pm
VC-LLB	Virtual Classroom. Ladder Logic Basics	11/10/14	11/14/14	$1,999	Online - 2:30pm to 4:30pm
VC-M850	Virtual Classroom. Micro850 Installation, Wiring, & TS	11/10/14	11/14/14	$2,499	Online - 9:00am to 11:00am
VC-MFSISO-01	Virtual Classroom. Machine Functional Safety - Risk Assess	11/18/14	11/18/14	$199	Online - 3:30pm to 5:30pm
VC-MLDO-01	Virtual Classroom. MLDO: Drive and Motor Selection	11/17/14	11/17/14	$199	Online - 8:00am to 9:30am
VC-MLDO-02	Virtual Classroom. MLDO: Networks, Controller & I/O Select	11/18/14	11/18/14	$199	Online - 8:00am to 10:00am
VC-PF523P	Virtual Classroom. PowerFlex 523/525 Drive Programming	11/17/14	11/18/14	$799	Online - 1:00pm to 2:30pm
VC-PF755H-01	Virtual Classroom. PowerFlex 755 Hi Horsepower: Pre-Install	11/17/14	11/17/14	$199	Online - 3:30pm to 5:30pm
VC-SFT106	Virtual Classroom. NFPA 70E 2012 - Arc Flash Awareness	11/10/14	11/13/14	$375	Online - 12:00pm to 1:30pm
CCV209	FactoryTalk View ME-PanelView Plus M&T	10/14/14	10/15/14	$ 1,240	Rockwell - Wayland
SAF-SFT106	NFPA 70E – ARC Flash Awareness	10/21/14	10/21/14	$ 437	Rockwell - Wayland
BL-CCP146	ControlLogix® System Fundamentals-Lab	11/03/14	11/03/14	$ 999	Rockwell - Wayland
CCP146	ControlLogix System Fundamentals	11/04/14	11/05/14	$ 1,240	Rockwell - Wayland
CCV207	FactoryTalk View Site Edition Prog	12/08/14	12/12/14	$ 2,490	Rockwell - Wayland
MFG244	Fundamentals of Electricity	12/15/14	12/15/14	$ 796	Rockwell - Wayland
MFG213	Industrial Electrical Controls Fundamentals	12/16/14	12/19/14	$ 1,990	Rockwell - Wayland
CCP196	PanelView & PanelBuilder32 Application	01/13/15	01/14/15	$ 1,240	Rockwell - Wayland
EM-101A	Basic AC/DC Concepts	10/13/14	10/17/14	$ 2,490	Rockwell - Troy
MM-500	Mechanical Concepts	10/20/14	10/24/14	$ 2,490	Rockwell - Troy
SAF-LOG103	GuardLogix Fundamentals & TS	10/28/14	10/28/14	$ 828	Rockwell - Troy
SAF-LOG101	GuardLogix Application Development	10/29/14	10/30/14	$ 1,250	Rockwell - Troy
CCP164	DeviceNet & RSNetWorx Config & Troubleshooting	11/04/14	11/06/14	$ 1,650	Rockwell - Troy
CCA161	PowerFlex 700 Configuration & Startup	11/11/14	11/11/14	$ 828	Rockwell - Troy
CCA163	PowerFlex 700 Maintenance & TS	11/12/14	11/12/14	$ 828	Rockwell - Troy
CCP298	CompactLogix Fundamentals & Troubleshooting	11/17/14	11/21/14	$ 2,490	Rockwell - Troy
CCP299	ControlLogix Fundamentals & TS	12/01/14	12/05/14	$ 2,490	Rockwell - Troy
CCP143	Studio 5000 Project Development	12/09/14	12/12/14	$ 2,070	Rockwell - Troy
CCN145	Kinetix® 6000 (SERCOS) Programming	12/16/14	12/19/14	$ 2,070	Rockwell - Troy
CCV204	FactoryTalk View ME-PanelView Plus Prog	01/13/15	01/16/15	$ 2,070	Rockwell - Troy
BL-CCP146	ControlLogix® System Fundamentals-Lab	01/19/15	01/19/15	$ 999	Rockwell - Troy
CCP146	ControlLogix System Fundamentals	01/20/15	01/21/15	$ 1,240	Rockwell - Troy
CCP151	Studio 5000 Basic Ladder Programming	01/22/15	01/23/15	$ 1,240	Rockwell - Troy
BL-CCP146	ControlLogix® System Fundamentals-Lab	01/26/15	01/26/15	$ 999	Rockwell - Troy
IMINS	Managing Industrial Networks with Cisco	01/26/15	01/30/15	$ 3,750	Rockwell - Troy
CCP153	ControlLogix Maintenance & TS	01/27/15	01/30/15	$ 2,070	Rockwell - Troy

Because of the complexity industrial control that is currently being installed in factory automation, the need for a thorough understanding and knowledge of equipment is imperative to keep your company productive and profitable. Training from Allen-Bradley can reduce downtime because employees trained on equipment can solve problems faster. It also maximizes utilization of equipment because personnel knowledgeable about all performance capabilities of equipment will use those capabilities to the best advantage and potential. Additionally, Allen-Bradley's training increases worker participation towards your company's goals and objectives. Many productive suggestions for solving ongoing problems and increasing productivity come from workers who fully understand control equipment.

To enroll in any of these or other classes, register online at:

training.kendallelectric.com

Kendall Electric is dedicated to providing our customers and owner-associates the most effective training to maximize productivity. Talk to your Account Manager today about your training needs.

Course ID	Course Name	Start - End Date		Tuition	Location
CCV204	FactoryTalk View ME-PanelView Plus Prog	10/14/14	10/17/14	$ 2,070	Rockwell - Indianapolis
CCN200	Kinetix 6000 Maintenance & TS	10/21/14	10/22/14	$ 1,240	Rockwell - Indianapolis
CCP299	ControlLogix Fundamentals & TS	10/27/14	10/31/14	$ 2,490	Rockwell - Indianapolis
SAF-SFT106	NFPA 70E – ARC Flash Awareness	11/04/14	11/04/14	$ 437	Rockwell - Indianapolis
CCV207	FactoryTalk View Site Edition Prog	11/10/14	11/14/14	$ 2,490	Rockwell - Indianapolis
CCP298	CompactLogix Fundamentals & TS	11/17/14	11/21/14	$ 2,490	Rockwell - Indianapolis
CCP146	ControlLogix System Fundamentals	12/02/14	12/03/14	$ 1,240	Rockwell - Indianapolis
CCP151	Studio 5000 Basic Ladder Programming	12/04/14	12/05/14	$ 1,240	Rockwell - Indianapolis
CCPS43	SLC 500/RSLogix 500 Maintenance & TS	12/09/14	12/12/14	$ 2,070	Rockwell - Indianapolis
CCA182	PowerFlex 750-Series Startup & Config	12/16/14	12/17/14	$ 1,240	Rockwell - Indianapolis
CCA183	PowerFlex 750-Series Maintenance & TS	12/18/14	12/19/14	$ 1,240	Rockwell - Indianapolis
CCP143	Studio 5000 Project Development	01/20/15	01/23/15	$ 2,070	Rockwell - Indianapolis
CCP164	DeviceNet & RSNetWorx Config & TS	01/27/15	01/29/15	$ 1,650	Rockwell - Indianapolis
BL-CCP146	ControlLogix® System Fundamentals-Lab	10/13/14	10/13/14	$ 999	Rockwell - Twinsburg
CCP146	ControlLogix System Fundamentals	10/14/14	10/15/14	$ 1,240	Rockwell - Twinsburg
CCP151	Studio 5000 Basic Ladder Programming	10/16/14	10/17/14	$ 1,240	Rockwell - Twinsburg
CCP152	Studio 5000 Function Block Programming	10/21/14	10/22/14	$ 1,240	Rockwell - Twinsburg
PRS010	PID Loop Development & Tuning	10/24/14	10/24/14	$ 804	Rockwell - Twinsburg
IMINS	Managing Industrial Networks with Cisco	10/27/14	10/31/14	$ 3,750	Rockwell - Twinsburg
PRS013	PlantPAx System Config Fundamentals	11/03/14	11/07/14	$ 3,450	Rockwell - Twinsburg
CCPS41	SLC 500/RSLogix 500 Programming	11/04/14	11/07/14	$ 2,070	Rockwell - Twinsburg
CCA183	PowerFlex 750-Series Maintenance & TS	11/11/14	11/12/14	$ 1,190	Rockwell - Twinsburg
OEM101	OEM: SLC500 and RSLogix500-Fund & TS	11/24/14	11/25/14	$ 1,240	Rockwell - Twinsburg
CCP298	CompactLogix Fundamentals & TS	12/01/14	12/05/14	$ 2,490	Rockwell - Twinsburg
CCV204	FactoryTalk View ME-PanelView Plus Prog	12/09/14	12/12/14	$ 2,070	Rockwell - Twinsburg
SAF-TUVT3	Functional SafetyTech Certification Test	12/16/14	12/18/14	$ 2,080	Rockwell - Twinsburg
CCV204	FactoryTalk View ME-PanelView Plus Prog	01/13/15	01/16/15	$ 2,070	Rockwell - Twinsburg
OEM100	OEM:CLX,FTViewME,Kinetix 6k & PF40-F&TS	01/19/15	01/23/15	$ 2,490	Rockwell - Twinsburg
CCP143	Studio 5000 Project Development	01/27/15	01/30/15	$ 2,070	Rockwell - Twinsburg
CCN145	Kinetix® 6000 (SERCOS) Programming	10/14/14	10/17/14	$ 2,070	Rockwell - Burr Ridge
CCP122	PLC-5/SLC 500 & RSLogix Fundamentals	10/21/14	10/22/14	$ 1,240	Rockwell - Burr Ridge
CCPS41	SLC 500/RSLogix 500 Programming	10/28/14	10/31/14	$ 2,070	Rockwell - Burr Ridge
CCPS43	SLC 500/RSLogix 500 Maintenance & TS	11/03/14	11/06/14	$ 2,070	Rockwell - Burr Ridge
BL-CCP146	ControlLogix® System Fundamentals-Lab	11/10/14	11/10/14	$ 999	Rockwell - Burr Ridge
CCP146	ControlLogix System Fundamentals	11/11/14	11/12/14	$ 1,240	Rockwell - Burr Ridge
CCP151	Studio 5000 Basic Ladder Programming	11/13/14	11/14/14	$ 1,240	Rockwell - Burr Ridge
CCP152	Studio 5000 Function Block Programming	11/18/14	11/19/14	$ 1,240	Rockwell - Burr Ridge
CCP143	Studio 5000 Project Development	12/09/14	12/12/14	$ 2,070	Rockwell - Burr Ridge
CCP412	PLC-5 & RSLogix 5 Maintenance & TS	12/09/14	12/12/14	$ 2,070	Rockwell - Burr Ridge
CCP299	ControlLogix Fundamentals & TS	12/15/14	12/19/14	$ 2,490	Rockwell - Burr Ridge
CCP146	ControlLogix System Fundamentals	01/13/15	01/14/15	$ 1,240	Rockwell - Burr Ridge
CCP151	Studio 5000 Basic Ladder Programming	01/15/15	01/16/15	$ 1,240	Rockwell - Burr Ridge
SI100	SI: Logix5000 Proj Dev/Basic Ladder Prog	01/20/15	01/23/15	$ 2,070	Rockwell - Burr Ridge
CCP153	ControlLogix Maintenance & TS	01/27/15	01/30/15	$ 2,070	Rockwell - Burr Ridge
IMINS	Managing Industrial Networks with Cisco	10/20/14	10/24/14	$ 3,750	Rockwell - Alpharetta
FTVP	FactoryTalk Vantage Point Config & Report	10/28/14	10/30/14	$ 1,650	Rockwell - Alpharetta
CCV207	FactoryTalk View Site Edition Prog	11/17/14	11/21/14	$ 2,490	Rockwell - Alpharetta
CCN130	Motion Control Fundamentals	12/09/14	12/10/14	$ 1,240	Rockwell - Alpharetta
CCN145	Kinetix® 6000 (SERCOS) Programming	12/16/14	12/19/14	$ 2,070	Rockwell - Alpharetta
RS-FTHSEC	FactoryTalk Historian SE Config & Data	01/13/15	01/16/15	$ 2,090	Rockwell - Alpharetta
CCP299	ControlLogix Fundamentals & TS	01/26/15	01/30/15	$ 2,490	Rockwell - Alpharetta
CCP146	ControlLogix System Fundamentals	10/14/14	10/15/14	$ 1,240	Rockwell - Franklin
BL-CCP146	ControlLogix® System Fundamentals-Lab	10/16/14	10/16/14	$ 999	Rockwell - Franklin
CCV204	FactoryTalk View ME-PanelView Plus Prog	10/28/14	10/31/14	$ 2,070	Rockwell - Franklin
ILEAD-012	Level 1 Foundational Leadership Skills	11/04/14	11/07/14	$ 2,070	Rockwell - Franklin
CCP146	ControlLogix System Fundamentals	11/11/14	11/12/14	$ 1,240	Rockwell - Franklin
CCP151	Studio 5000 Basic Ladder Programming	11/13/14	11/14/14	$ 1,240	Rockwell - Franklin
CCP143	Studio 5000 Project Development	11/18/14	11/21/14	$ 2,070	Rockwell - Franklin
EM-204	Motor Controls	12/01/14	12/05/14	$ 2,490	Rockwell - Franklin
CCP122	PLC-5/SLC 500 & RSLogix Fundamentals	12/09/14	12/10/14	$ 1,240	Rockwell - Franklin
IMINS	Managing Industrial Networks with Cisco	12/15/14	12/19/14	$ 3,750	Rockwell - Franklin
BL-CCP146	ControlLogix® System Fundamentals-Lab	01/12/15	01/12/15	$ 999	Rockwell - Franklin
CCP146	ControlLogix System Fundamentals	01/13/15	01/14/15	$ 1,240	Rockwell - Franklin
CCP151	Studio 5000 Basic Ladder Programming	01/15/15	01/16/15	$ 1,240	Rockwell - Franklin
EM-101A	Basic AC/DC Concepts	01/26/15	01/30/15	$ 2,490	Rockwell - Franklin

2014 Rockwell Automation on the Move

Thank you for joining us!

This year's 2014 Rockwell Automation on the Move (RAOTM) turned out to be another fantastic event. It was held on August 13th and 14th at DeVos Place in Grand Rapids, MI. This was our tenth year for this event and it brought together Kendall Electric, Rockwell Automation, over 45 of our premier manufacturers, and over 650 customers. The event featured two days of seminars, hands-on labs, and great discussions on implementing products and technology in today's industry. The continued success to this event is attributed to our loyal customers and the hard work that both Kendall Electric and Rockwell Automation put into this event.

RAOTM offered over 18 different hands on labs and 54 unique technical seminars. Topics ranged from basic programming techniques, wireless communications, process, drives, motion control, manufacturing intelligence, safety, and networks, to name a few. People walked away with information to help increase productivity, build equipment more cost effectively, manage production assets, reduce downtime, save energy, and much more.

I would like to personally thank Rockwell Automation, our manufacturers, and all of the Kendall employees that participated in the event. Most of all I would like to thank our customers. This event is truly about supporting and educating our customers not only on the products that we sell and support, but on topics that can help them be more successful in the businesses that they support.

Thanks again and look for similar events in the near future.

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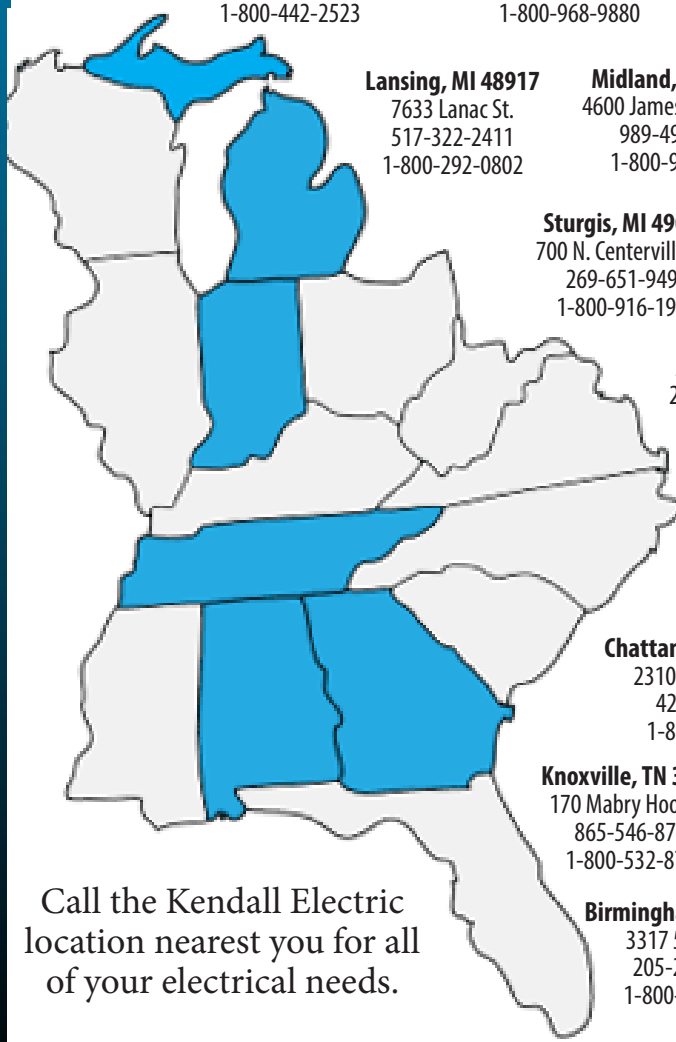

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